5.12 Water Quality

5.12.1 Introduction

The Water Quality section of the EIR analyzes the potential short-term, long-term, and cumulative impacts resulting from the construction and operation of the Project and alternatives. The water quality discussion will analyze the water quality conditions in the proposed Shingle Springs Interchange region.

5.12.2 Environmental Setting

Climate

The average annual precipitation for the Shingle Springs area is approximately 34 inches (86.4 centimeters) per year. The 100-year, 6-hour and 24-hour rainfall intensities are 3.2 inches (8.1 centimeters) and 6.5 inches (16.5 centimeters), respectively (El Dorado County, 1995). For the 25-year return period, rainfall intensities are 2.75 inches (7.0 centimeters) for the 6-hour duration and 5.4 inches (13.7 centimeters) for the 24-hour duration. Summers are hot and dry, and winters are cool and moist. A large majority of the annual precipitation falls between the months of November and April. Rainfall increases rapidly with elevation due to the orographic effect as the atmosphere rises and cools as it climbs over Sierra Nevada Mountains. Within 20 miles, annual rainfall can increase from 15 inches (38.1 centimeters) to 40 inches (101.6 centimeters) or more. This rainfall pattern is predictable and usually follows storm durations of 12- 24 hours. Within these total storm durations, there can be periods of more intense short duration rainfall, particularly as the main cold front approaches. Summer precipitation is rare, usually caused by monsoonal moisture from either the Gulf of Mexico or Gulf of California. While these summer monsoons may bring thunderstorms to the higher elevations along the crest of the Sierras, the lower elevations usually do not receive significant precipitation.

Surface Water and Drainage

The project area is located within the South Fork American River Basin (Hydrologic Unit 514.31) as identified within the Central Valley Regional Water Quality Control Board's *Water Quality Control Plan* (Basin Plan). More locally, the project area is located in the Slate Creek Watershed (**Figure 5.12-1**), a sub basin of the Weber Creek Watershed for which all water quality criteria in this report are assigned to. The Weber Creek Watershed contains the Tennessee Creek and the Slate Creek tributaries.

The project site is contained within an approximate 100-acre (40.5 hectare) drainage basin, and drains to two creeks. The first, Slate Creek, with its headwaters near the community of Diamond

Springs, travels southwest through the community of El Dorado before meeting up with a creek coming down Logtown ridge. It then travels westward before turning north approximately ½ mile (0.8 kilometers) west of Greenstone Mine. At this point Slate Creek travels north until meeting up with Dry Creek south of Green Valley Road. This journey is approximately 5 miles (8.0 kilometers) in length and drains an area of approximately 5,365 acres (2171.1 hectares) or 8.4 square miles (21.7 square kilometers) (**Figure 5.12-2**). The second channel, Tennessee Creek, is an intermittent tributary of Dry Creek.

The majority of runoff from the project site drains to Slate Creek. The project site contains four drainages; of these, three drain generally east to Slate Creek, while the other drains west toward Tennessee Creek.

These drainages primarily consist of vegetated swales that are dry most of the year and flow only during periods of precipitation and subsequent runoff. The drainage, which flows toward Tennessee Creek, enters one of four streams comprising the headwaters of Tennessee Creek. The other drainage channels intersect Slate Creek at an intermittent portion of the latter channel that flows only during periods of precipitation and groundwater discharge.

The project site contains three different soil types. These soils typically have low infiltration rates due to high rock content and rocky outcrops with limited soil layers. The local soils of the project area do not have as extensive rock content as detailed under the soil designations and also have substantial soil layers (Youngdahl & Associates, 1999). Therefore, infiltration rates are assumed to be higher than indicated in the Soil Conservation Service's soil survey (1974). Nearly all of the drainage basin is vegetated with either high grass or oak woodland.

Groundwater

The primary mechanism for water storage and movement on the project site is within the fracture and joint systems in the rocks. The occurrence and geometry of the fractures dictate the flow patterns within the rocks. Some rainfall will infiltrate the soil and be made available to plants and to the air for evapo-transpiration, and a portion will reach the lower permeability rock layer beneath the soils. At this point, the water will flow through the soil along the soil-rock boundary until a rock fracture conducts the water into the underlying rock or until the soil becomes too thin to support the flow, forming a seasonal spring.

Recharge to the system is dependent on rainfall characteristics, and the ability of the underlying rock to receive infiltration. Regionally, recharge rates range from 8% to 31%. The average amount of recharge to the project site can only be estimated within this range. Well data collected by Youngdahl and Associates indicates water detected at a depth of 209 feet (63.7

meters) near the project site. The deepest fractures were recorded at 551 feet (167.9 meters). Another well near the project site did not detect water until a depth of 385 feet (117.3 meters). This data suggests the aquifer to be semi-confined, ranging in thickness from less than 166 feet (50.6 meters) to a maximum of 342 feet (104.2 meters).

It is well understood that groundwater in this region resides in fractures in the underlying bedrock (Youngdahl and Associates, 1999). The availability of groundwater in these fractured rock formations is variable and can be quite limited. No well water is proposed for use in the Proposed Project.

Surface Water Quality

Land use largely affects surface water quality, with both point source and nonpoint-source discharges contributing contaminants to surface waters. The Proposed Project will consist of a freeway interchange, and hence the water quality will be largely guided by the characteristics of highway runoff.

Highway Runoff

Storm water runoff from highways is known as "highway runoff," and contains a variety of characteristic contaminants. During storm events, rainwater first collects atmospheric pollutants and, upon surface impact, gathers roadway deposits. This runoff can be highly polluted, and negative impacts on receiving waters include sedimentation, eutrophication, and accumulation of pollutants in sediments and benthic organisms, and destruction of native species. Pollutants found in highway runoff are generally classified under six broad categories:

- suspended solids/particulates,
- oxygen-consuming constituents (e.g., BOD, COD),
- nutrients,
- heavy metals,
- trace organics, and
- microorganisms.

Typical concentrations of various constituents are presented in **Table 5.12-1**. Contaminants are deposited on paved areas and medians as a result of fuel combustion processes, lubrication system losses, tire and brake wear, transportation load losses, paint from infrastructure, and atmospheric fallout. Sources of specific contaminants are outlined in **Table 5.12-2**.

The impacts of highway runoff are highly site-specific, and depend upon the timing, frequency, and intensity of storm events, local air quality, and level of traffic activity. Of particular concern

See Figure 5.12-1

See Figure 5.12-2

is the runoff from "first flush" storm events, during which the first large storm of the season collects a relatively high concentration of contaminants. Also of concern is dry season runoff, which is also known to contain higher concentrations of contaminants.

Water Bodies Currently Impacted

No water quality data exists for the intermittent and ephemeral drainages on the project site, or for Slate and Tennessee Creeks. No impacted waterbodies are located in the Weber Creek

Table 5.12-1 Caltrans Storm Water Runoff Quality

Constituent	Unit	Average Storm Water Runoff Concentration from Highways*
Biological Oxygen Demand (BOD)	Mg/L	15.5
Chemical Oxygen Demand (COD)	Mg/L	86
pH (pH)	pH units	7.4
Temperature (Temp)	^{o}C	14
Total Dissolved Solids (TDS)	Mg/L	118
Total Suspended Solids (TSS)	Mg/L	160
Turbidity (Turb.)	NTU	60
Litter/trash (Trash)	Lb/acre(3)	20.5
Toxicity (Tox.)	% Survival	Insufficient monitoring data
Oil and Grease (O&G)	Mg/L	14.5
Metals (dissolved concentrations)		
Aluminum (Al)	ug/L	155
Arsenic (As)	ug/L	2.8
Cadmium (Cd)	ug/L	0.6
Chromium (Cr)	ug/L	3.1
Copper (Cu)	ug/L	15.8
Lead (Pb)	ug/L	7.3
Mercury (Hg)	ug/L	ND
Nickel (Ni)	ug/L	6.3
Selenium (Se)	ug/L	ND
Silver (Ag)	ug/L	0.6
Zinc (Zn)	ug/L	89.5
Nutrients		
Ammonia (NH_3)	Mg/L	1.8
Nitrate (NO_3)	Mg/L	1.6
Nitrite (NO_2)	Mg/L	0.2
Ortho-phosphate (P) (Ortho-P)	Mg/L	0.2
Total (Kjeldhl Nitrogen) (TKN)	Mg/L	2.9
Total Phosphorus (TP)	Mg/L	0.3
Microbiological		
Fecal Coliform	MPN/100/mL	8170
Total Coliform	MPN/100/mL	30,500
Pesticide		
Chlorpyrifos	ug/L	0.6
Diazinon	ug/L	0.7
Glyphosate	ug/L	39.6

Source: Caltrans, 2001
*Average based on 1997-1998 and 1998-1999 monitoring data.

Watershed as identified in the 1998 California Section 303(d) List and TMDL Priority Schedule (EPA, 2000), nor has the Central Valley Regional Water Quality Control Board (RWQCB) designated beneficial uses for water bodies within the watershed. The estimated approximate annual loading of various constituents in the Weber Creek Watershed, as calculated by the California Department of Transportation (Caltrans), is outlined in **Table 5.12-3**.

Table 5.12-2 Highway Runoff Constituents and Their Primary Sources

Constituent	Primary Source
Particulates	Pavement wear, vehicles, atmosphere, maintenance
Nitrogen, Phosphorus	Atmosphere, roadside fertilizer application
Lead	Auto exhaust, tire wear
Zinc	Tire wear, motor oil, grease
Iron	Auto body rust, steel highway structures, moving engine parts
Copper	Metal plating, bearing and bushing wear, moving engine parts, brake lining wear, fungicides and insecticides
Cadmium	Tire wear, insecticide application
Chromium	Metal plating, moving engine parts, brake lining wear
Nickel	Diesel fuel and gasoline (exhaust), lubricating oil, metal plating, bushing wear, brake lining wear, asphalt paving
Manganese	Moving engine parts
Sulphate	Roadway beds, fuel
Petroleum	Spills, leaks or blow-by of motor lubricants, antifreeze and hydraulic fluids, asphalt surface leachate
PCB's	Atmosheric deposition

Source: EPA, 1993 and Corrales et al. 1996

5.12.3 Regulatory Setting

A variety of federal, state, and local agencies have jurisdiction over the project site. Important agencies and statutory authorities relevant to water quality as it relates to the Proposed Project are outlined below.

Clean Water Act

The Clean Water Act (33 USC 1251-1376), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality. The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Important sections of the Act are as follows:

- Sections 303 and 304 provide for water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for any federal permit that proposes an activity, which may result in a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the Act.

Table 5.12-3 Estimated Annual Storm Water Runoff Loads in the Weber Creek Watershed

Constituent	Aggregate Load	Units
Acetone (VOC)	77	LBS/YR
Al-total	11	TONS/YR
Al-dissolved	450	LBS/YR
As-dissolved	8	LBS/YR
As-total	39	LBS/YR
B	180	LBS/YR
Ba	691	LBS/YR
Bis(2-ethylhexyl)phthalate	43	LBS/YR
BOD	32	TONS/YR
Ca	29	LBS/YR
Cd-dissolved	1	LBS/YR
Cd-total	5	LBS/YR
Chlorpyrifos	0	LBS/YR
Cl	12	TONS/YR
COD	277	TONS/YR
Cr-dissolved	12	LBS/YR
Cr-total	51	LBS/YR
Cu-dissolved	62	LBS/YR
Cu-total	201	LBS/YR
Cyanide	66	LBS/YR
Diazinon (OP Pesticide)	1	LBS/YR
F	2	TONS/YR
Fe-dissolved	743	LBS/YR
Fe-total	16	TONS/YR
Glyphosate	88	LBS/YR
K	6	TONS/YR
Mg	5	TONS/YR
Mn-total	1	LBS/YR
Na	12	TONS/YR
NH3-N	4	TONS/YR
Ni-dissolved	15	LBS/YR
Ni-total	56	LBS/YR
NO2-N	870	LBS/YR
NO3-N	3	TONS/YR
Oil & Grease	13	TONS/YR
P-dissolved	371	LBS/YR
P-total	1160	LBS/YR
Pb-dissolved	20	LBS/YR
Pb-total	462	LBS/YR
Sb-dissolved	8	LBS/YR
Sb-total	10	LBS/YR
SO4	21	TONS/YR
TDS	294	TONS/YR
TKN	5	TONS/YR
TOC	28	TONS/YR
TRPH	20	TONS/YR
TSS	194	TONS/YR
TVSS	153	TONS/YR
Zn-dissolved	377	LBS/YR
ZN-total	960	LBS/YR

Source: Caltrans, 2001b

- Section 402 establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredge or fill material) into waters of the United States. This permit program is administered by RWQCB, and is discussed in detail below.

- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by USACE.

Porter-Cologne Water Quality Act

The State of California's Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.) provides the basis for water quality regulation within California. The Act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of surface or groundwater of the state. Waste discharge requirements identified in the Report are implemented by the RWQCB.

State Water Resources Control Board and Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) administers water rights, water pollution control, and water quality functions throughout the state, while the Regional Water Quality Control Boards (RWQCB) conduct planning, permitting, and enforcement activities. The project area lies within the jurisdiction of the Central Valley Regional Water Quality Control Board.

Beneficial Uses and Water Quality Objectives

The RWQCB is responsible for the protection of beneficial uses of water resources within the Central Valley Region. Beneficial uses are the desired resources, services, and qualities of the aquatic system that are supported by achieving and protecting high water quality. The RWQCB uses planning, permitting, and enforcement authorities to meet this responsibility, and has adopted the Fourth Edition of the Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins (RWQCB, 1998) to implement plans, policies, and provision for water quality management. The Basin Plan was prepared in compliance with the federal CWA and the State Porter-Cologne Water Quality Control Act. The Basin Plan establishes beneficial uses for major surface waters and their tributaries, water quality objectives that are intended to protect the beneficial uses of the Basin, and implementation programs to meet stated objectives and to protect the beneficial uses of water in the Basin.

Beneficial uses for groundwater in the region as designated by the RWQCB include municipal, agricultural, and industrial uses. Water quality objectives listed for groundwater include

thresholds for bacteria, organic and inorganic chemical constituents, radioactivity, taste and odor, and toxicity. Beneficial uses for surface waters of the region have been assigned MUN designations; in addition, beneficial uses have been designated for the South Fork of the American River, into which waters from the project site ultimately drain. Beneficial uses of identified waters generally apply to their tributary streams. These uses include municipal, agricultural, industrial, and recreational uses, freshwater habitat, and wildlife habitat. Water quality objectives for surface waters have been set concerning bacteria, bioaccumulation, biostimulatory substances, color, dissolved oxygen, floating material, oil and grease, radioactivity, population and community ecology, pH, salinity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, turbidity, and ammonia. Objectives for specific chemical constituents are regulated dependent upon the beneficial use of the water body. Specific water quality objectives and standards for both surface and groundwater supplies are outlined in the Basin Plan (RWQCB, 1998).

NPDES Program

The SWRCB has issued the Caltrans Statewide NPDES Storm Water Permit (Order No. 99-06-DWQ), adopted July 15, 1999, which covers all Caltrans facilities in the State. In compliance with this permit, the Statewide Storm Water Management Plan (SWMP) was developed by Caltrans to address storm water pollution control related to highway planning, design, construction and maintenance activities throughout the State of California. The SWMP describes the minimum procedures and practices that Caltrans uses to reduce the discharge of pollutants in discharges from storm drainage systems owned or operated by Caltrans. It outlines procedures and responsibilities for protecting water quality at Caltrans facilities, including the selection and implementation of Best Management Practices (BMPs). The Proposed Project will be expected to follow the guidelines and procedures outlined in the SWMP.

Construction Activity Permitting

Caltrans must also comply with the requirements of a second NPDES permit issued by the SWRCB, “NPDES General Permit, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity” (Order No. 99-08-DWQ), which regulates discharges from construction sites that disturb 5 acres (2.0 hectares) or more. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation results in soil disturbance of at least 5 acres (2.0 hectares) of total land area must comply with the provisions of this NPDES Permit and develop and implement an effective Storm Water Pollution Prevention Plan (SWPPP). The project applicant must submit a Notice of Intent to the RWQCB to be covered by the NPDES permit and prepare the SWPPP prior to the beginning of

construction. Implementation of the plan starts with the commencement of construction and continues through the completion of the project. Upon completion of the project, the applicant must submit a Notice of Termination to the RWQCB to indicate that construction is completed.

El Dorado County Grading Ordinance

The El Dorado County Grading Ordinance (Section 15.14 of the El Dorado County Code) requires a permit for all grading activities within the county. However, a permit is not required for, "Grading done by or under the supervision or construction control of a public agency that assumes full responsibility for the work to the extent required by law" (El Dorado County Code Section 15.14.060, Exemptions). As such, Caltrans will not be required to obtain a grading permit from the County.

5.12.4 Impacts and Mitigation Measures

Significance Criteria

A water quality impact directly or indirectly resulting from the Proposed Project would be considered significant if it would:

- Violate any water quality standards, waste discharge requirements, or otherwise substantially degrade water quality.
- Substantially alter the existing drainage pattern of the site or area, which would result in substantial erosion or siltation on- or off-site.
- Create or contribute runoff water, which would provide substantial additional sources of polluted runoff to existing or planned stormwater drainage systems.

Methodology

The surface and subsurface hydrology and drainage of the project area and its surrounding environments were reviewed to determine potential areas of impact. Pre- and post-project flows were modeled (see Drainage Section), and the data were analyzed in light of typical highway contaminant concentrations to determine the levels of impact from storm water. These levels were then compared against the standards of significance outlined below to determine significance. Mitigation measures were then developed to respond to statutory requirements and the levels of significance.

Impact/ Mitigation

Impact 5.12-1 Short-term Impacts on Water Quality from Construction

AA No action will occur as a result of the No Project/Action Alternative. ***Therefore, the No Project/Action Alternative is not expected to result in a significant impact to the environment.*** No mitigation is required.

AB, AC Construction of the Flyover or Diamond Interchange would involve soil-disturbing activities such as vegetation removal, grading, and excavation which may result in soil erosion and sediment discharge into surface waters, increased turbidity, and downstream sediment deposition. Temporary stockpiling of excavated soils would have the same effect if subject to erosion during rainfall. In addition, fuels, solvents, and other chemicals used in construction activities could be accidentally spilled, dumped, or discarded and ultimately leak into Tennessee or Slate Creeks.

As stated previously, the Proposed Project would require the preparation of a SWPPP under the Caltrans statewide NPDES permit (CAS000003, Order No. 99-06-DWQ) and general construction NPDES permit (CAS000002, Order No. 99-08-DWQ) issued by the SWRCB. These permits prohibit the discharge of waste, including soil and sediment, which causes pollution or nuisance. The RWQCB also reserves the option to specify additional requirements it may consider necessary to meet water quality standards. The conditions to protect water quality outlined in the NPDES permits, the SWPPP, and any additional RWQCB requirements would be implemented to mitigate impacts on water resources to a less-than significant level.

Construction activities will comply with all requirements and guidelines associated with the aforementioned NPDES permits. A SWPPP will be created by the contractor and implemented under the Caltrans Construction SWMP to outline BMP's that minimize impacts to water quality. A Notice of Intent (NOI) for the SWPPP will be formulated and enacted prior to construction activities. The SWPPP will also be kept on site for the duration of all construction and maintained in accordance with the applicable NPDES permits.

BMP's that may be identified in the SWPPP include, but are not limited to, the following:

- Existing vegetation will be retained where possible. To the extent feasible, grading activities will be limited to the immediate area required for construction.

- Temporary erosion control measures (such as silt fences, staked straw bales, and temporary revegetation) will be employed for disturbed areas and stockpiled soil.

- No disturbed surfaces will be left without erosion control measures in place during the winter and spring months. Construction activities will be limited to the non-rainy season (May-October).

- Sediment will be retained onsite by a system of sediment basins, swales, or other appropriate measures.

- A spill prevention and countermeasure plan will be developed which will identify proper storage, collection, and disposal measures for potential pollutants (such as fuel storage tanks) used onsite, as well as the proper procedures for cleaning up and reporting of any spills.

- Potentially hazardous materials will be stored away from drainages, and containment berms will be constructed to prevent spilled materials from reaching water bodies.

- Vehicles and equipment used during construction will be provided proper and timely maintenance to reduce potential for mechanical breakdowns leading to a spill of materials into water bodies. Maintenance and fueling will be conducted in an area that meets the criteria set forth in the spill prevention plan.

- Disturbed areas will be revegetated after completion of construction activities.

Therefore, the Flyover Interchange Design Alternative and the Diamond Interchange Design Alternative are not expected to result in a significant impact to the environment.

Mitigation 5.12-1 Short-term Impacts on Water Quality from Construction

None Reqiured.

Impact 5.12-2 Impacts from Erosion Related to Stream or River Alteration

AA No action will occur as a result of the No Project/Action Alternative. ***Therefore, the No Project/Action Alternative is not expected to result in a significant impact to the environment.*** No mitigation is required.

AB,AC Construction of the Flyover Interchange or the Diamond Interchange will not result in significant alterations to any jurisdictional waterbody or channel. A 75 square foot (7.0 square meter) portion of one of the ephemeral drainages will be impacted by fill to allow for the transportation crossing. Section 404 permit will be obtained from the Army Corp of Engineers to allow for the fill and construction of the linear transportation crossing over the ephemeral drainage. Section 401 certificate will be obtained from the RWQCB and will outline site-specific BMP's for discharges during construction and operation. Under Section 1601of the California Fish and Game Code, an agency proposing to substantially divert the natural flow of a stream, substantially alter its bed or bank, or use any material from the streambed, must first enter into a "Streambed Alteration Agreement" with CDFG. The Proposed Project would require a Streambed Alteration Agreement. Other onsite drainages will be temporarily altered during construction, but later restored. No significant change to erosion or siltation on- or off-site as a result of streambed alterations is expected. ***Therefore, the Flyover Interchange Design Alternative and the Diamond Interchange Design Alternative are not expected to result in a significant impact to the environment.***

Mitigation 5.12-2 Impacts from Erosion Related to Stream or River Alteration

None Required.

Impact 5.12-3 Impacts to Groundwater Quality

AA No action will occur as a result of the No Project/Action Alternative. ***Therefore, the No Project/Action Alternative is not expected to result in a significant impact to the environment.*** No mitigation is required.

AB,AC The Proposed Project is not expected to change the quality of groundwater by interceptions of groundwater flow through cuts to the native topography. The Proposed Project will not utilize groundwater during operations. ***Therefore, the***

Flyover Interchange Design Alternative and the Diamond Interchange Design Alternative are not expected to result in a significant impact to the environment.

Mitigation 5.12-3 Impacts to Groundwater Quality

None Required.

Impact 5.12-4 Cumulative Impacts To Water Quality

AA No action will occur as a result of the No Project/Action Alternative. ***Therefore, the No Project/Action Alternative is not expected to result in a significant impact to the environment.*** No mitigation is required.

AB,AC As outlined in the drainage section, project construction would result in increased impervious surfaces from the construction of on-ramps and off-ramps. This increase in impervious surface area would result in less infiltration of rainfall into the ground within the project area, causing total runoff volumes to increase. This increase in highway runoff has the potential to degrade water quality over time, particularly during "first flush" storm events. As stated earlier, the proposed interchange falls under the Caltrans statewide NPDES permit (CAS000003, Order No. 99-06-DWQ) issued by the RWQCB. The SWMP prepared pursuant to this permit outlines methodologies for selection and implementation of BMPs to mitigate adverse impacts to water quality, and the NPDES permit requires the implementation of appropriate BMPs. These BMPs are expected to mitigate any impacts to water quality.

Appropriate BMPs will be selected and implemented using the SWMP guidance in an effort to reduce impacts to water quality to the maximum extent possible. These BMP's fall into several categories: Category IA (Maintenance BMPs), Category IB (Design Pollution Prevention BMPs), and Category III (Treatment BMPs) (Caltrans, 2001a). These BMPs will be adopted under the appropriate Caltrans programs. ***Therefore, the Flyover Interchange Design Alternative and the Diamond Interchange Design Alternative are not expected to result in a significant impact to the environment.***

Mitigation 5.12-4 Cumulative Impacts on Water Quality

None Required.